

Other dependent claims (17, 42, 43, 103, 104) were cancelled and replaced by new claims to ensure that each dependent apparatus claim was dependent solely upon a preceding, independent, apparatus claim.

Claims 116 through 179, and 182-183, were then reviewed to ensure that each dependent method claim depended on a preceding, independent method claim; and that each dependent apparatus claim depended on a preceding, independent apparatus claim.

The previous changes to the odd-number claims from 117 through 137, to the claims from 138 through 143, the odd-number claims from 145 through 151, claims 155-157, and the odd-numbered claims from 159-183 (excluding 180 and 181, which had been cancelled), were double-checked to ensure that the claim number indicating dependence correctly denoted an apparatus claim.

Accordingly, it is believed that this objection has been traversed and that the claims are now all in presently allowable, correct, and proper form.

A second grounds for objection was the use in Claim 1, at line 22, of the word “prefer” as rendering unclear whether meeting design criteria “is required or not”; with a similar problem in claims 2, 41, 101, and 108.

This part of these claims has been amended to state that the design criteria represent goals the method favors, rather than constraints that are required, thus removing the grounds for the objection. For any communications network, the practical realities of the real world will vary – not just from point to point, and not just from time to time, but also with usage patterns, environmental conditions, and social, governmental, and standards changes. One of the current, best, authors on engineering and design has unequivocally stated: “Engineering is the art of compromise, and there is always room for improvement in the real world. But engineering is also the art of the practical....” (Invention By Design, Henry Petroski, © 1996, Harvard Univ. Press, ISBN 0-674-46368-4;

Introduction, p. 3, last 2 sentences of the second full paragraph.) The method as amended gives guidance as to the preferred compromises for the best practical solution, yet makes it clear that meeting the stated criteria is not required. (Attention is specifically called to the use of the permissive gerund, ‘allowing’, to doubly emphasize this point, in each of these substeps.)

Accordingly, it is believed that this objection has been traversed and that the claims are now all in presently allowable, correct, and proper form.

Additionally, the OA requested further clarification for lines 28-30 in Claim 1 (and also asked for the same in the same points in Claims 2, 41, and 108), as to how to count “diversity capability means” versus “subsets”. These claims have been amended in compliance with this request.

The sub-paragraph (and design criteria sub-step) set forth in lines 24-27 now makes definite the division of any set of nodes into at least two (“two or more”) proper subsets of nodes. A ‘proper subset’, by definition, must include less than the entirety of members of the set from which it is drawn. Thus, if a set of nodes has four member nodes, it can have: (a) a pair of two proper subsets, one with 3 nodes and one with 1 node; (b) a pair of two proper subsets, each with 2 nodes; (c) a triple of three proper subsets, one with 2 nodes and two with 1 node each ; or (d) a quartet of four separate proper subsets, each having one node.

The next sub-paragraph (and design criteria sub-step) set forth in lines 28-30, now makes definite that a proper subset membership for each node depends upon that node’s diversity capability means. A node should “simultaneously belong to up to as many transmitting uplink or receiving uplink subsets as it has diversity capability means”. Thus, the count between diversity capability means, and specific subsets, will top out at a one-to-one ratio.

A node is specifically permitted to belong to fewer subsets because, for example in ‘noisy’ conditions, it may devote more than one of its diversity capability means to a particular communications channel. (See the Specification, “Several receiving antennas can be used to receive the signals sent from a single transmitting antenna.” P. 34, lines 17-18; Figure 15.) The potential for differential distribution specifically described and allowed by this claim is also noted in the Specification, “A significant element is that the diversity channel distribution need not be equal; one recipient node may have half the channels, if the traffic density requires it, while the transmitting node may divide its remaining channels evenly amongst the remaining nodes.” P. 48, lines 8-11, in ‘Summary Description’.

Finally, the very last step of these Claims indicates the continuing tie between the proper subsets and diversity capability means; both are dynamically adapted to optimize the network.

For the above reasons, it is believed that this objection has been traversed and that the claims are now all in presently allowable, correct, and proper form.

An additional change was made to avert a possible further objection. Claim 81 was amended to address the possibility of confusion over the pairing of the words “combination...or”, with the preferred pairing of “combination...and”.

CLAIMS CANCELLATION

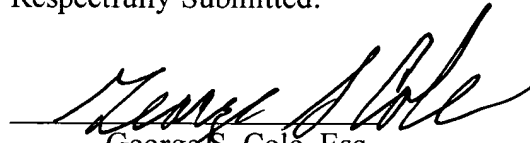
Claims 17, 42, 43, 103, and 104 were cancelled to avoid having a dependent apparatus claim depend upon an independent method claim, or a dependent method claim depend upon an independent apparatus claim.

If the Examiner has any questions or wishes to discuss this matter he is urged to contact the Applicant's attorney, George S. Cole, Esq., using the phone, fax, or email below.

A claims listing with the status of each claim, with the claims in ascending order, and with the text of the claim, has been appended to this Response. This listing of claims will replace all prior versions, and listings, of claims in the application.

The Applicant believes that these claims are now all in presently allowable, correct, and proper form, and respectfully asks that a timely Notice of Allowance be issued in this case.

Respectfully Submitted:


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